

03050106-050

(Broad River)

General Description

Watershed 03050106-050 is located in Newberry and Fairfield Counties and consists primarily of the **Broad River** and its tributaries from the Tyger River to the Parr Shoals dam. The watershed occupies 146,310 acres of the Piedmont region of South Carolina. The predominant soil types consist of an association of the Cecil-Pacolet-Wilkes series. The erodibility of the soil (K) averages 0.24, and the slope of the terrain averages 15%, with a range of 2-40%. Land use/land cover in the watershed includes: 76.6% forested land, 11.9% agricultural land, 7.5% water, 2.8% scrub/shrub land, 0.8% urban land, and 0.4% barren land.

This section of the Broad River accepts drainage from its upper reaches, together with the Tyger River Watershed, the Enoree River Watershed, Beaver Creek (McClures Creek, Chicken Creek, Storm Branch, Reedy Branch, Sandy Fork), Rocky Creek, and Terrible Creek. The Parr Shoals dam impounds the Broad River to form Parr Reservoir, which accepts drainage from Hellers Creek (Second Creek, Buck Branch) and Cannons Creek (Rocky Branch, Kerr Creek, Charles Creek, Mud Creek). Monticello Reservoir (7100 acres) is connected to Parr Reservoir by Frees Creek. There are numerous ponds and lakes (totaling 8,497.9 acres) in this watershed and a total of 243.5 stream miles, all classified FW. The Sumter National Forest and the Broad River Waterfowl Area are natural resources in the watershed.

Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
B-047	S	FW	BROAD RIVER AT SC 34, 14 MI NE OF NEWBERRY
B-151	BIO	FW	HELLERS CREEK AT SR 97
B-346	W	FW	PARR RESERVOIR 4.8 KM N OF DAM, UPSTREAM OF MONTICELLO RESERVOIR
B-751	BIO	FW	CANNONS CREEK AT US 176
B-328	P	FW	MONTICELLO RES., UPPER IMPOUNDMENT AT BUOY IN MIDDLE OF LAKE
B-327	P	FW	MONTICELLO RESERVOIR, LOWER IMPOUNDMENT BETWEEN LARGE ISLANDS
B-345	W	FW	PARR RESERVOIR IN FOREBAY NEAR DAM

Broad River (B-047) - Aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Hellers Creek (B-151) - Aquatic life uses are partially supported based on macroinvertebrate community data.

Cannons Creek (B-751) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Monticello Reservoir - Monticello Reservoir is a 7100-acre divided impoundment that floods most of Frees Creek watershed in Fairfield County. The upper impoundment is a small recreational lake. The lower impoundment is linked with Parr Reservoir on the Broad River via a pumped storage hydroelectric

facility. Overall, the average depth of Monticello Reservoir is 59 feet (17.9 m) and the maximum depth in the lower impoundment is approximately 126 feet (38.4 m). The lake's watershed comprises approximately 17 square miles (44 km²).

Lake Monticello is comprised of two separate impoundments, and there is a monitoring site on each impoundment. At the upper impoundment site (**B-328**), aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand, total nitrogen concentration, and turbidity suggest improving conditions for these parameters. At the lower impoundment site (**B-327**), aquatic life uses are fully supported. A high concentration of zinc was measured in water in 1995. A significant decreasing trend in total nitrogen concentration suggests improving conditions for this parameter. Recreational uses are fully supported at both sites.

Parr Reservoir - Parr Reservoir is a 4400-acre impoundment on the Broad River in Fairfield and Newberry Counties, linked with Monticello Reservoir via a pumped storage hydroelectric facility. Parr Reservoir's maximum depth is approximately 25 feet (7.6 m) and the average depth is 15 feet (4.6 m). The reservoir's watershed comprises approximately 4750 square miles (12,302 km²) in North and South Carolina. There are two monitoring sites on Parr Reservoir (uplake **B-346**, downlake **B-345**) and aquatic life and recreational uses are fully supported at both sites.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD)	NPDES# TYPE LIMITATION
BROAD RIVER SCE&G/PARR HYDRO STA. PIPE #: 001 FLOW: M/R	SC0001864 MINOR INDUSTRIAL EFFLUENT
MONTICELLO RESERVOIR SCE&G/SUMMER NUCLEAR STA. PIPE #: 001-013, 015, 016 FLOW: M/R PIPE #: 014 FLOW: 0.12 WQL DO,TRC; NH3N IN SUMMER & WINTER	SC0030856 MAJOR INDUSTRIAL WATER QUALITY WATER QUALITY
PARR RESERVOIR SCE&G/FAIRFIELD PUMPED STORAGE PIPE #: 001 FLOW: M/R	SC0035904 MINOR INDUSTRIAL EFFLUENT
CANNONS CREEK NCWSA/CANNONS CREEK WWTP PIPE #: 001 FLOW: 0.05	SC0048020 MINOR DOMESTIC EFFLUENT
CHARLES CREEK FOREST HILLS SD/ELBO INC. PIPE #: 001 FLOW: 0.02 WQL FOR DO,TRC,NH3N	SC0024571 MINOR DOMESTIC WATER QUALITY

ROCKY CREEK
VULCAN MATERIALS CO./BLAIR QUARRY
PIPE #: 001 FLOW: M/R

SCG730053
MINOR INDUSTRIAL
EFFLUENT

Nonpoint Source Management Program

Land Disposal Activities

Landfill Activities

<i>SOLID WASTE LANDFILL NAME</i> <i>FACILITY TYPE</i>	<i>PERMIT #</i> <i>STATUS</i>
NEWBERRY COUNTY LANDFILL DOMESTIC	DWP-117 CLOSED
NEWBERRY COUNTY LANDFILL DOMESTIC	DWP-044 CLOSED
NEWBERRY COUNTY TRANSFER STATION DOMESTIC	361001-6001 -----

Land Application Sites

<i>LAND APPLICATION SYSTEM</i> <i>FACILITY NAME</i>	<i>ND#</i> <i>TYPE</i>
SPRAYDIELD SHAKESPEARE PRODUCTS GROUP	ND0070033 INDUSTRIAL

Mining Activities

<i>MINING COMPANY</i> <i>MINE NAME</i>	<i>PERMIT #</i> <i>MINERAL</i>
TARMAC MID-ATLANTIC, INC. BLAIR QUARRY	0130-39 GRANITE

Water Supply

<i>WATER USER</i> <i>STREAM</i>	<i>TOTAL PUMP. CAPACITY (MGD)</i> <i>RATED PUMP. CAPACITY (MGD)</i>
VC SUMMER NUCLEAR STATION WTP	3.1
MONTICELLO RESERVOIR	1.5

Growth Potential

There is a low to moderate potential for growth in this watershed, primarily associated with residential development around the reservoirs, the Towns of Prosperity and Pomaria, and the City of Newberry. The upper portion of the watershed is effectively excluded from development by the Sumter National Forest, and the overall lack of adequate utilities to serve the remaining area will limit growth.